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Substitute for form 1449/PTO
**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**

Date Submitted: June 25, 2009

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/523,167
Filing Date	3/10/2006
First Named Inventor	Mohammad Borran
Art Unit	2611
Examiner Name	Kevin Michael Burd
Attorney Docket Number	088245-0799

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-7,269,436	09-11-2007	Won, Seung Hwan	
		US-7,149,239	12-12-2006	Hudson, John E.	
		US-7,116,652	10-03-2006	Lozano, Angel	
		US-7,027,485	04-11-2006	Yue, Lin	
		US-7,016,296	03-21-2006	Hartman, Jr.	
		US-6,819,719	11-16-2004	Schelstraete, Sigurd Jan Maria	
		US-6,654,431	11-25-2003	Barton, et al.	
		US-6,373,832	04-16-2002	Huang et al.	
		US-6,226,334	05-01-2001	Olafsson, Sverrir	
		US-5,329,552	07-12-1994	De Cousanson et al.	
		US-4,866,395	09-12-1985	Hostetter, G. Robert	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code*Number ² Kind Code ³ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		EP 1324558	07-02-2003	Sony International (Europe) GmbH		
		RU 2,145,152	01-27-2000	Garmonov Aleksandr Vasil'evich	With English Abstract	
		RU 2,192,094	10/27/2002	Garmonov Aleksandr Vasil'evich	With English Abstract	
		KR 2002-0076049	10-09-2002	Kim et al.	With English counterpart	

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
		BORRAN et al., "Constellations for Imperfect Channel State Information at the Receiver," 40th Annual Allerton Conference on Communication, Control and Computing, October 2002.	

Examiner
Signature

/Kevin M Burd/

Date
Considered

07/08/2009

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		BORRAN, et al., "Constellations for Imperfect Channel State Information at the Receiver, Rice University power point presentation," October 2002.	
		CHAN, ALBERT M., et al., "A New Reduced-Complexity Sphere Decoder for Multiple Antenna Systems," Proc. Int. conf. Commun. (ICC-02) (New York City) April 2002.	
		Copy of Translation of Decision on Grant for Russian Patent Application No. 2005141578, received April, 19, 2007.	
		Cover, T.M. and Thomas, J.A., "Elements of Information Theory," Wiley Interscience, 1991, p. 231.	
		International Preliminary Examination Report for PCT/IB03/02088 completed March 21, 2004.	
		International Search Report for PCT/IB03/02088 mailed October 23, 2003.	
		International Search Report and Written Opinion for PCT/IB2004/01566 mailed February 8, 2005.	
		Rice Digital Scholarship Archive information regarding Borran et al document, printed 4/1/08.	
		Communication for EP 04 755 820.0 – 1525, dated 5/19/2009.	
		Supplementary European Search Report for EP 03 73 5862 dated 6/9/2005.	
		Tarokh et al. "Space-Time Codes for High Data Rate Wireless Communication: Performance Criterion and Code Construction." Information Theory, IEEE Transactions on Volume 44, Issue 2, Mar 1998 Page(s):744 - 765	
		Office Action from Korean Intellectual Property Office for corresponding Korean Application Number 10-2008-7015598, dated 8/21/2008.	

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		Supplementary European Search Report for EP 04 75 5820 dated February 16, 2009	
		AAZHANG B et al, "On Design Criteria and Construction of Noncoherent Space Time Constellations", IEEE Transactions on Information Theory, US, vol. 49, no. 10, October 1, 2003, pages 2332-2351.	
		International Search Report and Written Opinion for PCT/US04/19909, mailed December 14, 2005.	
		International Preliminary Report on Patentability for PCT/US2004/019909, issued January 3, 2006.	
		Office Action from Chinese Patent Office for related Chinese Application Number, 200480017820.6, dated October 31, 2008.	

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